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PROVISIONAL INTELLIGENCE REPORT

DISTRIBUTION OF SOVIET WORKERS AND EMPLOYEES
BY ECONOMIC SECTOR
1951-55

CIA/RR PR-101

21 February 1955

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DOCUMENT NO. 1
NO CHANGE IN CLASS. ☐
☐ DECLASSIFIED
CLASS. CHANGED TO: TS S (C)
NEXT REVIEW DATE: 1988
AUTH: HR 70-2
DATE: 1006779 REVIEWER: 006514

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Modifications of Soviet production plans since the death of Stalin have caused changes in the distribution of the working force, particularly in the direction of expanding employment in agriculture and consumer goods industries. The figures presented in this report are the result of several calculations designed to bring earlier figures down to date and refine the occupational distribution.

Figures for the grand total of workers and employees, as well as the estimates of the number of those employed in industry and in education and health, are comparatively firm down to 1 January 1955 because periodic Soviet announcements either quote these figures directly or state percentages of increase over figures for previous periods from which 1955 estimates can be accurately computed. The breakdowns of employment in state agriculture and of employment in the subcategories within industry and in the service occupations are subject to greater error.

The original effort by CIA to refine these categories was published in April 1952 (CIA/RR PR-14, The Distribution of Workers in the USSR). In this report the initial projection to 1951 of employment as reported in the 1941 Plan was undertaken. This publication, in common with the 1941 Plan, suffered because the reporting of number of workers was by ministries rather than by employment in the production of specific products. In addition, the total employment in industry was only partially distributed, leaving a residual which was composed of employees in the administrative organs of government, the concealed defense industries, and some small miscellaneous categories.

In the following year, further extension and refinement of the estimates were facilitated by a study of the early operations of the Fifth Five Year Plan (1951-55) and by an analysis of ancillary reports. The results were included in the materials contributed to NIE 65 and published separately in May 1953 (CIA/RR PR-32, Postwar Trends in Manpower in the USSR and European Satellites). These estimates were subject to the same weaknesses as the 1951 analysis, although to a lesser degree.

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Further refinement of the estimates made during 1953 was made possible by additional announcements of plan fulfillments and by extensive additional research in which considerable progress was made in associating employment with specific groups of products rather than with ministerial administration. The range of products analyzed in this study was not complete, and gaps in the information remained. At the same time, the composition of the agricultural labor force was analyzed more closely, making it possible to secure a better estimate of employment in state agriculture. Finally, the relation between production and productivity data was reviewed in CIA/RR PR-68. The revisions made as a result of these studies and an analysis of the newly emerging trends in expansion of the production of consumer goods are presented in this report.

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(ORR Project 45.548)~~SECRET~~DISTRIBUTION OF SOVIET WORKERS AND EMPLOYEES
BY ECONOMIC SECTOR*
1951-551. Total Employment in the National Economy.

The Fifth Five Year Plan (1951-55), as originally announced, provided for only a modest increase in workers and employees** through 1955. The number was to grow by 5.8 million, or 15 percent. 1/*** During the first 4 years of the Plan, however, the increase was 7.8 million, or 20 percent. In other words, as shown in Table 1,**** the whole expansion planned for 5 years was exceeded in 4 years.

The increase of 7.8 million in 4 years was possible because of an increase of about 10 million in the population in the age group from 15 through 69 years of age, 2/ because of the transfers of large numbers of amnestied forced laborers into the "free" labor force, and because of the transfers of many collective farmers into the Machine Tractor Stations (MTS's). 3/ By utilization of these resources, the USSR was able to maintain a rate of increase in workers and employees greater than that planned and, at the same time, to keep a fairly constant labor force on collective farms and continue to expand school enrollment.

* The estimates and conclusions contained in this report represent the best judgment of ORR as of 1 January 1955.

** "Workers and employees" is a technical term used by the Soviet government. It includes workers in heavy and light industries; workers in state agriculture; and workers in such other nonindustrial services as transportation, construction, trade, communications, education, health, and art, as well as employees of state and public institutions. The term does not include workers on the collective farms (kolkhozy), members of the armed services, workers in forced-labor camps, or independent artisans.

*** Footnote references in arabic numerals are to sources listed in Appendix B.

**** Table 1 follows on p. 4.

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2. Employment in State Agriculture.

This change in labor policy is reflected in the distribution of workers and employees in a number of ways. The most notable shift has been into state agriculture, where there was an increase in employment of 2.5 million from 1951 to 1955. Part of this increase was in accord with original plans, but the major influence was the wholesale transfer of collective farmers, not classified as workers and employees, to the MTS's, where labor is so classified. There were also transfers from other industries into the MTS's. These trends are expected to continue through 1955, when the program of opening new land should be about complete.

3. Employment in Industry.

Employment in industry and mining, which was originally planned to expand by 1.8 million, or 13.3 percent, ^{4/} had, at the beginning of 1955, increased 1.9 million over 1951. The originally announced Five Year Plan was predicated on a small increase in industrial employment, 13 percent, and a large increase in industrial productivity, 50 percent (8.5 percent compounded annually). ^{5/} The reverse has taken place. Increases in productivity have been slower than expected and increases in employment faster. Part of the lag in productivity is attributable to the shift of production in the direction of lower valued consumer goods, ^{6/} and part is attributable to the disorganization following the death of Stalin and the difficulty in adjusting unexpectedly large numbers of employees to new jobs.

Table 2* shows that within industry employment in the heavy-industry category increased by only 12 percent as against an increase in light industry of 41 percent. It is recognized that the light-industry category is inadequately represented by the two groups included (textiles and food processing) and that many products of light manufacture are produced along with machines, but the spread is considered indicative of the genuinely increased interest in consumer goods. The machine-building industry maintained a faster rate than heavy industry as a whole, but its increase was offset by slower increases in timber and mining.

* Table 2 follows on p. 8.

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By 1 January 1955, Soviet employment in mining and manufacturing (heavy and light industry combined) was estimated to be 16,550,000. As compared with a US figure of 18.2 million in similar categories in 1953. 7/ It is probable that by 1 January 1956 Soviet employment in mining and manufacturing will approach that of the US, although total nonagricultural employment will be somewhat smaller in the USSR.

4. Employment in Service Occupations.

The 4-year increase in employment in the service occupations (9 percent) was slower than the total worker and employee increase (see Table 2), but the increases in the social services (health, education, and art) amounted to over 18 percent, or nearly the same increase as for the total workers and employees. Since the population increased only by about 7 percent, it appears that a substantial advance in per capita expenditure for health and education services was accomplished.

5. Changes in Distribution of Employment.

The net effect of the changes described in the preceding sections is given in Table 2, which shows the changes in distribution between broad sectors of the economy.

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Table 1
Estimated Employment of Soviet Workers and Employees
by Sector
As of 1 January 1951-55

	Thousand Workers				
	1951	1952	1953	1954	1955
Total workers and employees <u>8/</u>	<u>39,200</u>	<u>40,800</u>	<u>41,700</u>	<u>44,800</u>	<u>47,000</u>
Industrial	<u>13,700</u> <u>9/</u>	<u>14,400</u> <u>10/</u>	<u>14,900</u> <u>a/*</u>	<u>15,700</u> <u>a/</u>	<u>16,550</u> <u>a/</u>
Total heavy industry <u>b/</u>	<u>19,600</u>	<u>10,000</u>	<u>10,400</u>	<u>10,500</u>	<u>10,750</u>
Coal (and peat) <u>c/</u>	1,267	1,280	1,317	1,355	1,390
Electric power <u>d/</u>	330	330	330	330	330
Petroleum <u>e/</u>	189	195	208	224	240
Nonferrous metals <u>f/</u>	341	348	371	392	412
Ferrous metals <u>g/</u>	472	496	514	529	543
Chemicals <u>h/</u>	330	333	339	346	352
Timber, <u>i/</u> woodworking, paper	1,203	1,295	1,324	1,342	1,302
Machine construction <u>j/</u>	3,950	4,160	4,400	4,655	4,888
Heavy industry (not elsewhere classified) <u>k/</u>	1,518	1,563	1,597	1,327	1,293
Total light industry <u>l/</u>	<u>4,100</u>	<u>4,400</u>	<u>4,500</u>	<u>5,200</u>	<u>5,800</u>
Textiles and allied <u>m/</u>	1,900	2,000	2,100	2,200	2,450
Food and allied <u>n/</u>	2,200	2,400	2,400	3,000	3,350
Nonindustrial <u>o/</u>	<u>25,600</u>	<u>26,400</u>	<u>26,800</u>	<u>29,100</u>	<u>30,450</u>
State agriculture <u>23/</u>	2,900	3,000	3,100	4,500	5,400
Railroad transport <u>p/</u>	1,760	1,730	1,760	1,776	1,776
Water transport <u>q/</u>	640	673	706	741	778
Other transport <u>r/</u>	3,150	3,180	3,210	3,240	3,280

* Footnotes for Table 1 follow on p. 5.

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Table 1

Estimated Employment of Soviet Workers and Employees
by Sector
As of 1 January 1951-55
(Continued)

	Thousand Workers				
	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Nonindustrial o/ (Continued)					
Construction s/	3,925	4,000	4,075	4,075	4,100
Trade t/	2,800	2,900	2,950	3,000	3,083
Communications u/	600	600	600	600	600
Education v/	3,200	3,400	3,465	3,665	3,865
Health w/	1,500	1,550	1,600	1,700	1,800
Art x/	250	250	250	250	250
State and public institutions and services (not elsewhere classified) y/	4,775	5,117	5,084	5,553	5,518

- a. Estimated from index of employment derived from indexes of production and productivity. 11/
- b. Based on Malenkov announcement that employment in heavy industry in 1953 was 70 percent of all industrial employment. 12/ This relationship was assumed to have been relatively stable in 1951-52. Estimates for 1954-55 were based on increases planned in light industry subtracted from total industry increment.
- c. Estimate for 1952 was derived by calculating the number of production workers from estimates of production and output per worker. 13/ Employment figures were expanded to include non-production workers by relationship in 1941 Plan. Estimates for 1951 and 1953-55 were calculated from production and productivity increases announced in the respective annual reports of plan fulfillment. (Probably includes some forced labor.)
- d. Held level because of lack of basis for estimating rate of change.
- e. Estimate for 1952 calculated from employment figures for crude oil extraction, which were based on estimates of production and output per worker. 14/ Estimates for 1951 and 1953-55 were calculated from production and productivity increases announced in the respective annual reports of plan fulfillment.
- f. Employment for 1952 estimated. Figures for 1951 and 1953-55 were calculated from production and productivity increases announced in the respective annual reports of plan fulfillment.

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Table 1

Estimated Employment of Soviet Workers and Employees
by Sector
As of 1 January 1951-55
(Continued)

g. Estimate for 1952 was derived from estimates of production and output per worker. 15/
Estimates for 1951 and 1953-55 were calculated from production and productivity increases
announced in the respective annual reports of plan fulfillment.

h. Employment for 1952 calculated from estimates of output per worker, 16/ production index,
and 1941 Plan employment.

i. Logging employment calculated from estimates of output per worker 17/ on the basis of 283
days per annum, and the production of industrial round wood per annum. 18/ (Probably includes
some forced labor).

j. Estimates were calculated from production and productivity increases announced in the
respective annual reports of plan fulfillment. 19/

k. Residual within the category of heavy industry. Probably includes 550,000 workers in the
construction materials industry (from 1941 Plan employment plus increases calculated from pro-
duction and productivity increases announced in the annual reports of plan fulfillment 20/).

l. Residual. Total industry minus heavy industry.

m. Calculated from production and productivity increases announced in the annual reports of
plan fulfillment. 21/

n. Calculated from production and productivity increases announced in the annual reports of
plan fulfillment. 22/

o. Residual. Total workers and employees minus industry.

p. Estimated from output per worker and ton-kilometers. 24/

q. Rate of increase of employment estimated at one-half the rate of increase of ton-kilometers. 25/

r. Motor vehicle transport employment based on estimate of number of motor vehicles in 1951
(at 50 percent in operation) and service and driver ratios (4 per vehicle). 26/

s. Calculated from production and productivity increases announced in the annual reports of plan
fulfillment. 27/

t. Employment in 1954 announced. 28/ Employment estimates for 1955 based on planned increments. 29/ Employment reported to be 2.5 million in 1948. 30/ Employment for 1951-53
interpolated.

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Table 1

Estimated Employment of Soviet Workers and Employees
by Sector
As of 1 January 1951-55
(Continued)

-
- u. No basis for estimating changes.
 - v. 1952 estimated. 31/ Other years calculated from employment increases announced in the annual reports of plan fulfillment.
 - w. 1952 estimated. 32/ Other years calculated from employment increases announced in the annual reports of plan fulfillment.
 - x. 1952 estimated. 33/ Other years calculated from employment increases announced in the annual reports of plan fulfillment.
 - y. Residual.

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Table 2

Comparison of 1951 and 1955 Estimates of Employment
of Soviet Workers and Employees by Sector a/

Sector	1951 <u>b/</u>		1955 <u>b/</u>		Change in Percent of Total
	Number (Millions)	Percent	Number (Millions)	Percent	
Heavy industry	9.6	24	10.8	23	-1
Light industry	4.1	10	5.8	12.1	+2
State agriculture	2.9	7	5.4	11.5	+4
Economic services	12.9	33	13.6	29.0	-4
Social services	5.0	13	5.9	12.6	Negligible
Other	4.8	12	5.5	11.7	Negligible

a. Derived from Table 1.

b. As of 1 January.

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APPENDIX A

GAPS IN INTELLIGENCE

The Soviet sources cited are for the most part plan-fulfillment announcements and official speeches. Some of these cited precise figures and some gave increases in production and productivity from which employment could be estimated with some accuracy. Inasmuch as the 1941 Plan was the point of departure for calculating subsequent increases, and inasmuch as this Plan was assumed with minor adjustments to represent 1940, some errors have arisen.

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Still other error is involved in the listing of figures as of 1 January each year. This date is convenient to use because announcements of the plan results relate to that date. If, however, the figures are derived from production-productivity increases, the announcements presumably refer to a full year of operation. The derived labor figure is, therefore, more of an annual average of man-years rather than employment at any specific date. Estimates for 1 January were derived by averaging two of the successive man-year requirement figures. Thus seasonal fluctuations, part-time employment, and unemployment during transfer periods are not sufficiently accounted for.

Total employment in the critical defense industries is still largely concealed in the "machine building" and "not elsewhere classified" groups. At the present time, not enough information is at hand to make it possible to break down the large groups classed in "machine building."

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The Soviet system of administering and reporting construction activity is so complex that the estimate for employment in construction is subject to a wide range of error. This uncertainty is further aggravated by the lack of information as to how much construction activity is carried on by slave labor rather than by workers and employees.

As pointed out in the text, the manufacture of consumer goods is inadequately represented by only two industries, textiles and food. Information is lacking on which to base separate estimates for boots and shoes, household furnishings, and household equipment.

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